

## ABSTRACT OF THE DISCLOSURE

A scalable audio codec processes, quantizes and encodes audio signals into an embedded audio bitstream of bit-planes each having a data unit. The data unit has a beginning refinement bits partition, a second significance bits partition, a third sign boundary mark bits partition, and a fourth sign bits partition. The second and fourth partitions form a boundary for the third partition. The quantizing uses a variable length coding algorithm. The third partition is an invalid codeword for a predetermined encoding method being used to encode. The codec uses a decoder to decode the embedded audio bitstream of bit-planes using Reversible exponential Golomb (Exp-Golomb) codes in a Reversible Variable Length Code (RVLC) algorithm to produce quantized data of weighted subbands. An inverse quantizer dequantizes the quantized data into audio signals.